AMD Zeppelin block diagram

Zeppelin Die

Zen CCX

CPU Core	CPU Core	CPU Core	CPU Core

L3 Cache

Zen CCX

CPU Core	CPU Core	CPU Core	CPU Core

L3 Cache

2 Channel (128-bit) DDR4

CCM

CCM

IO Complex

IOMS

Infinity Fabric (Scalable Data Fabric)

UMC

UMC

DDR4 Controller

x64

DRAM

x64
-21.3GB/sec
-2667Mtps
(Threadripper
-25.6GB/sec
-3200Mtps)

South Bridge	PCIe	PCIe	SATA

CAKE   CAKE   CAKE   CAKE   CAKE   CAKE

IFIS   IFIS

DDR4 Controller

x64

DRAM

x64
-21.3GB/sec
-2667Mtps
(Threadripper
-25.6GB/sec
-3200Mtps)

Low Speed IOs

IFIS/PCIe

IFIS/PCIe/SATA

IFOP   **IFOP**   **IFOP**   **IFOP**

x8   x8   x8   x8

x32   x32   x32

Infinity Fabric or PCI Express

Infinity Fabric or PCI Express or SATA

**Total 4 Links
3 Links enabled**

Total 32 lanes

IFIS(Infinity Fabric Inter-Socket)
19GB/sec/Link(Unidirectional)
37.9GB/sec/Link(Bidirectional)
16-bit Link(Unidirectional)/32-bit Link(Bidirectional)
Differential Signaling
9pj/bit

IFOP(Infinity Fabric On-Package)
21.3GB/sec/Link(Unidirectional) 25.6GB/sec/Link(Threadripper)
42.6GB/sec/Link(Bidirectional) 51.2GB/sec/Link(Threadripper)
32-bit Link(Unidirectional)/64-bit Link(Bidirectional)
Single-Ended Signaling
Clock Forwarding
2pj/bit

CCM   Cache-Coherent Master
UMC   Unified Memory Controller
IOMS IO Master/Slave
CAKE Coherent AMD Socket Extender
IFOP Infinity Fabric On-Package
IFIS   Infinity Fabric Inter-Socket